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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/715,546	11/19/2003	Kenichiro Yoshii	245650US2SRD	5590

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EXAMINER
TANG, KENNETH

ART UNIT	PAPER NUMBER
2195	

NOTIFICATION DATE	DELIVERY MODE
04/14/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS,
WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>02 February 2009</u>.

2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>26-37</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>26-37</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some * c) ☐ None of:

        1. ☐ Certified copies of the priority documents have been received.

        2. ☐ Certified copies of the priority documents have been received in Application No. _____.

        3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>10/1/08</u>.

4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

1.   Claims 26-37 are presented for examination.

2.   Claims 1-25 were cancelled and claims 26-37 were added in the Amendment to the

claims on 2/2/09. Applicant's arguments were fully considered but are moot in view of the new

grounds of rejections.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

3.   Claims 26-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Cousins et al. (hereinafter Cousins) (US 6,539,542 B1) in view of Ando (US 2001/0005880

A1).

4.   As to claim 26, Cousins teaches a task execution method of allocating a plurality of tasks

to a plurality of processors and then causing the processors to execute the tasks, the tasks

composing a program and each of the tasks being described using any one of different instruction

sets of the processors, the method comprising:

a first operation of allocating all of the tasks to the processors such that each of the tasks

is allocated to a processor having an instruction set (mapping processes to processors) (col. 3,

lines 30-37, col. 5, lines 19-25);

a second operation of sequentially executing processes to determine whether the program

is improved in execution efficiency (determined by fitness score) when an allocation destination

of each of the tasks is changed from the processor to which said each of the tasks is allocated in

the first operation to another processor (col. 2, lines 47-55, col. 6, lines 33-35 and 51-67);

a third operation of changing an allocation destination of a task that is determined to be

one improving in execution efficiency to said another processor (new processor assignment

based on fitness score) (col. 6, lines 32-38); and

a fourth operation of causing the processors to execute all of the tasks after the third

operation (execution is performed and execution time is calculated so that fitness score can be

dynamically determined) (col. 6, lines 36-38, col. 9, lines 22-23).

5.   Cousins is silent in that the processor having an instruction set that is equal to an

instruction set used for describing said each of the tasks. However, Ando teaches allocating all

of the tasks to the processors such that each of the tasks is allocated to a processor having an

instruction set that is equal to an instruction set used for describing said each of the tasks

([0025]). Cousins and Ando are analogous art because they are both in the same field of

endeavor of computer processing and both attempting to solve the same problem of improving

computer processing. One of ordinary skill in the art would have known to modify Cousins'

computer processing system such that its each of the tasks is allocated to a processor having an

instruction set that is equal to an instruction set used for describing said each of the tasks, as

taught in Ando's computer processing system. The suggestion/motivation for doing so would

have been to provide the predicted result of more efficient execution of the processing system

(see Abstract, [0024], [0025], [0026]). Therefore, it would have been obvious to one of ordinary

skill in the art to combine Cousin and Ando to obtain the invention of claim 26.

6.   As to claim 27, Cousins teaches wherein the tasks mutually have an inter-task

dependency (col. 3, lines 30-40).

7.   As to claim 28, Cousins teaches wherein the second operation includes: estimating a data

amount in inter-processor communications in an entire program when an allocation destination

of each of the tasks is changed to another processor and a data amount in inter-processor

communications in the entire program when the allocation destination is not changed; and

determining whether the program is improved in execution efficiency when the allocation

destination of said each of the tasks is changed to said another processor according to whether

the data amount in inter-processor communications in the entire program decreases (decision

made based upon evaluating fitness score) (col. 2, lines 34-60).

8.   As to claim 29, Cousins teaches wherein said second operation includes sequentially

performing: a process of determining whether one of tasks immediately before and after each of

the tasks is a to-be-optimized task that is allocated to a processor different from the processor to

which said each of the tasks is allocated in the first operation; and a process of determining

whether the program is improved in execution efficiency when allocation destinations of tasks

that are determined to be to-be-optimized tasks are changed from the processor to which said

each of the tasks is allocated in the first operation to another processor (decision made based upon evaluating fitness score) (col. 2, lines 34-60).

9.   As to claims 30-33, they are rejected for the same reasons as stated in the rejections of claims 26-29, respectively.

10.   As to claims 34-37, they are rejected for the same reasons as stated in the rejections of claims 26-29, respectively.

Response to Arguments

11.   Applicant's arguments with respect to claims 26-37 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- **Martin (US 4,638,427)** teaches determining and labeling tasks as high affinity or low affinity and sends high affinity tasks to major processors while low affinity tasks are sent to minor processors (see Abstract).

Applicant's amendment necessitated the new ground(s) of rejection presented in this

Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this

final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to KENNETH TANG whose telephone number is (571)272-3772.

The examiner can normally be reached on 8:30AM - 6:00PM, Every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Meng-Ai An can be reached on (571) 272-3756. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/VAN H NGUYEN/   /Kenneth Tang/
Primary Examiner, Art Unit 2194   Examiner, Art Unit 2195